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ABSTRACT

This paper reports the problems arising out of, and the solution developed, in adapting dual labor market theory to the evaluation of a CETA youth employment demonstration project. The theory posits that some jobs operate within a primary labor market, and are characterized by good wages and benefits, job security and potential for within firm advancement, while other jobs operate within a secondary labor market and are deficient in those areas. The Career Advancement Voucher Demonstration Project was established to determine if two years of college would significantly improve the ability of these youth to enter the primary labor market. Several problems encountered in adapting the theory to program evaluation are discussed. In operationalizing the concepts, the theory was deficient for some industries, and it is hypothesized that a second type labor market - an occupation-centered market - is superimposed over the industry-centered labor market. Further, dual labor market theory has important implications with respect to an individual's career, but this evaluation took place at the beginning of the youth's work history. As a secondary source of information, an in-depth analysis of changes in career aspirations is suggested. (Author/GK)

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An Adaptation of Dual Labor Market Theory to the Evaluation of an Youth Employment Project

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An Adaptation of Dual Labor Market Theory to the Evaluation of an Youth Employment Project

Introduction

This paper reports the problems arising out of, and the solution developed, in adopting dual labor market theory to the evaluation of a CETA youth employment demonstration project. The dual labor market theory is a heuristically useful concept developed by economists and sociologists as a means to understand and pinpoint key issues concerning the economic and occupational structure of society. The concepts are particularly useful for those wishing to link educational or training program effects to occupational outcomes, and they have the advantage over other measures of identifying potential long-range benefits. The problem presented here, however, is to operationalize the concepts in order to facilitate the evaluation of a specific program. In doing so, several adjustments were called for.

The Career Advancement Voucher Demonstration Project (CAVDP) was a U.S. Department of Labor-funded study established to determine if two years of college would significantly improve the ability of YETP-eligible youth to enter the primarly labor market. The project was set up in five metropolitan areas. In each site 150 YETP eligible youth with college potential were recruited. One hundred from each site were randomly assigned to one of four experimental cells, while the other fifty were placed in the control group. The experimental group members, if accepted

into and retained in college, were provided with tuition and text book costs, and were assigned a CAVDP counselor for two years, while the control group members received none of these. The CAVDP also provided those experimentals who wanted it part-time jobs during the school year. As research agent, our firm arranged to interview the youth a total of six times, the last being three months after the completion of the second academic year (in September, 1981).

The primary issue with which we will deal, then, is how to operationalize the definition of primary labor market jobs. In reviewing the literature on dual and segmented labor market theory, we have not found any system of measures for differentiating primary and secondary jobs which would be completely suitable for the needs of this study. In this paper, we shall deal with the issue, first by reviewing a few previous studies, pointing out problems with respect to our specific needs, and then propose an alternative method for operationalizing primary and secondary jobs.

In evaluating various alternative methods, some of the more important factors considered were: (1) was the approach feasible in terms of our time and available resources; (2) are the data needed to use the method available for all types of occupation; (3) are the operationalized definitions consistent with the theoretical concepts; and (4) do the results of the categorization system "look right"? This last factor is extremely important, for our real, underlying concern is not so much to identify primary

jobs as it is to determine if CAVDP youth get good jobs. We consider jobs in the primary labor market to be good, but there appear to be some other jobs that would be viewed as desirable but which do not follow industrial primary labor market patterns. As a result, we will identify in this paper a second labor market pattern which characterizes some desirable occupations. Further, we shall argue that measures not traditionally found in dual labor market literature are necessary in order to identify those jobs.

Once we can identify primary labor market jobs, a second issue to be dealt with is how to assess the success of the program, given the particular circumstances of the study. The theory of dual labor markets has implications regarding an individual's long term job career patterns. However, the last data collection on our sample occurred at the beginning of their work histories. Further, a substantial proportion of our sample remained in school for a third year, and presently held part-time work of college students would be, we suggest, poor predictors of future careers. Because of this, we could not directly determine the actual occupational success of CAVDP students. However, additional occupational data were collected that does permit us to evaluate the project. This shall also be discussed.

First, however, we shall examine the primary labor market concept.

Primary Labor Market Jobs and Employee Rewards

The concept of what constitutes a primary labor market job has never been clearly defined. Certain positive or good characteristics are usually associated with such jobs, the most frequently cited being good wages and fringe benefits, job security, and within-firm advancement prospects. Discussions of primary jobs frequently suggest that a job with one of these qualities will also possess the other positive characteristics. In truth, however, this is not always the case. Some jobs offer a good salary but no security; others a chance for advancement, but poor benefits, etc. Furthermore, there are no criteria for weighting the relative importance of each of these characteristics in determining whether a job should be categorized as primary or secondary.

If so desired, such a set of (arbitrary) rules could be established. However, because of the nature of our study and the timing of our last interviews with the youth, this seems inadvisable. What appears to be a common characteristic of the primary as opposed to the secondary labor market is a future-oriented aspect, that is, career lines exist. A person in a primary labor market job can look forward to increasing financial rewards and opportunities for promotion to better jobs. In the secondary labor market, the opportunities for promotion and increasing financial rewards are much less

(see, for example, Spilerman, 1977). A primary labor market entry-level job may in fact offer a salary below that of some secondary jobs because of its future long-term benefits. Since our final interview occurred at the beginning of their occupational careers, use of salary at that time as a measure of primary labor market status, or even as a predictor of future earnings, could result in misleading conclusions.

An alternative to the use of salary levels is to concentrate on the fringebenefits associated with the job (e.g., amount of vacation and sick time, availability of a pension plan and health insurance, etc.). The use of this is rarely encountered in the literature, although because of the nature of our study it seems preferable to salary: much of this desired information could be obtained through our interviews with the youth. However, for several reasons, use of these data as indicators of primary jobs seem less than adequate. First of all, we could expect some inaccurate and incomplete information. Most of the youth not continuing with college were employed for a few months or less on the job, and they might not be aware of their present benefits. In addition, some benefits (e.g., pension) commonly are not offered to an employee until he or she has worked for a set amount of time. Thus when we interview the youth they may not be receiving such benefits. Further, it must be recalled that better fringe benefits are but one of several advantages

associated with primary jobs, and it does not seem true that all the characteristics must occur simultaneously. There are numerous jobs which we would consider primary that do not always carry good fringe benefits with them. To define primary jobs by this single characteristic would lead, it is believed, to serious misclassification of some jobs. While clearly we shall collect data on this in our final interview guide and cross-classify it with other measures, it is inadequate as the sole criterion for measuring primary jobs.

Job Skills, Training Requirements and Internal Labor Markets

Some authors have pointed out that such job characteristics as good salaries and benefits are hypothesized outcomes of a job being in the primary labor market, rather than defining the characteristics of it (Kaufman and Hodson, 1980, p.7). If our CAVDP youth enter the primary labor market we would hope they, in the long run, would be rewarded with higher salaries and better benefits. But, for reasons suggested above, we cannot look at this directly. Rather than looking at the predicted rewards for a person occupying a primary job, an alternative method often used to distinguish dual labor markets is to examine the characteristics of the jobs themselves.

Frequently, the use of this approach has flowed out of the analysis presented by Doeringer and Piore (1971), and it is convenient to summarize here their approach to the dual

labor market issue. According to them, some jobs (the primary sector) are organized around internal (or within-firm) labor markets. Here, entrance into a firm occurs at the lowest occupational rung, and entrants are insulated from non-employees (the external labor market) in competing for promotion and salary. According to this analysis, the major precipitating cause for the development of such internal labor markets is the cost of training employees. For those jobs requiring complex skills and tasks, and requiring relatively long periods of time to master, it is an economically rational decision for employees to create incentives (in the form of higher pay, better benefits, job security, good advancement prospects, etc.) for employees to remain with the firm. Such incentives will create a more stable workforce for the employer, which in turn will simultaneously improve productivity and cut recruitment and training costs. In contrast, the secondary sector consists of positions in which internal labor markets are only weakly developed. For jobs only requiring simple skills and very short periods of training, employers need not offer such worker benefits, as they can draw from the pool of under-employed and unemployed without incurring excessive training costs or loss of productivity. Other factors, e.g., union power and labor laws, also encourage the development of internal markets and primary jobs. But generally, these internal markets are more fully developed in those areas where the job training costs to an employer are highest.

Using Doeringer and Piore's analysis, one possible method of operationalizing jobs in the primary and secondary sectors is to classify all jobs by the level of training and preparation required, and to define as primary those jobs exceeding some arbitrarily set amount of training. Several studies (e.g., Rosenberg, 1975; Parcel, et al., 1980) have included this (along with other measures) in their operationalization of the concepts, making use of the Specific Vocational Preparation (SVP) and the General Educational Development (GED) codes that were developed for the Dictionary of Occupational Titles, 3rd edition.

In terms of our study, a problem with this method is that most of our subjects have been employed for only a few months, and therefore most likely will not be in jobs included in the higher levels of SVP. Primary labor market theory does not hypothesize that primary jobs must require high levels of training, but only that opportunities for entrace into such jobs would be enhanced for employees of the firm, or those already in the segmented labor market (by limiting or excluding access by persons in the external markets). Thus, a firm may hire employees as "helpers," and over time promote them into better paying and more skilled positions. Although the position of "helper" might be lowly, poorly paid, and require little training, it would be considered as part of the primary job sector by virtue of its future-oriented rewards. Unless we were, in some way, able

to identify the linkages between every job title in the DOT (e.g., in order to get into job Y one must, or usually must, work in job X first), measures such as SVP and GED would not help us differentiate such jobs from "dead end" jobs found in the secondary market.

Spilerman (1977) offers one possible solution by suggesting we delineate career line paths through an analysis of census data, and to differentiate those career lines that are "orderly" (income and status increase with age) from those termed "chaotic" (absence of such linear progression). Orderly career lines would typically be found in the primary labor market.

While such an analysis could prove insightful and useful, there are some problems. First, the costs for such an analysis would be prohibitive in terms of this research project. While this alone is reason enough for rejecting this approach, there are two additional reasons.

First, Spilerman's type of analysis would have to make the assumption that career paths would not change in our time: that is, the career path of a person starting in 1980 in job X will tend to be similar to that of a person who started to work in 1950. This assumption does not seem warranted. The proportion of jobs in primary labor markets has increased during the twentieth century (Gordon, 1980), and we would anticipate this would alter the career path patterns for some occupations.

Further, an examination of career line paths would not resolve all of the issues and problems regarding primary and secondary classification (Spilerman does not say it will). For example, Doeringer and Piore take the firm as the unit of analysis (even though job characteristics are used to explain the creation of internal labor markets). If all employees in a primary sector firm receive similar fringe benefits, then we must ask how to categorize an individual employed in the firm who is in an occupation which, on the average, follows a "chaotic" career-line path. It would seem that such a position should be included in the primary sector, since although promotional opportunities might be non-existent, the individual does receive other primary sector benefits (job security, fringe benefits, possibly higher pay than others in that same occupation).

If it does make sense to include in the primary labor market all jobs offered by a firm which is in the primary labor market, irrespective of the specific job characteristics, (we might want to exclude part-time and temporary help), a first step is to develop measures for determining which firms should be classified as within the primary sector. Because it is anticipated that we could not collect the necessary data through our interviews with CAVDP youth and that a special economic survey of the five sites is impractical, it is useful to examine the second major approach to dual labor market theory.

Industrial Sectors and Dual Labor Market Theory

While Doeringer and Piore stress the importance of the internal labor markets and firm costs for training, an alternative approach starts with an emphasis on the effects associated with the industrial structure of the country's political economy. Rather than looking directly at individual firms, there is an examination of industrial sectors, which can be divided into two distinct groups:

> a core of powerful, concentrated, unionized capital intensive, technologically progressive industries, and a periphery composed of industries marked by the absence of these features. (Oster, 1979: 33)

Historically, the development of dual labor markets is associated with the growth of industrial sectors dominated by large corporations, leading to oligopolistic systems of production. This core sector became differentiated from the periphery sector, which is characterized by smaller firms, operating in a more or less open, competitive, capitalistic environment (Averitt, 1968). Given the economic conditions, it is only within the core sector that the internal labor markets discussed by Doeringer and Piore fully develp (Beck, et al., 1978).

Given this perspective the task is to collect data on the characteristics of industries and, through the techniques of factor or cluster analysis, rank industries by the degree to which they possess hypothesized characteristics of core firms. Then, by adopting some arbitrary cut-off figure,

those indistries above that figure would be termed "core" and those below it, "periphery" industries. People employed in core industries would most likely be operating in a primary labor market.

There have been a host of studies using this or similar methods for differentiating core and periphery industries. Such studies, however, have been criticized both for their unnecessarily high degree of aggregation and for including in the indicators which they use to define sectors, measures of important labor market outcomes (e.g., wages and job security) which should be considered as dependent variables (Kaufman and Hodson, 1980). While this last criticism is well taken if we are trying to prove that core industries offer greater rewards, it need not concern us as much, since our real interest is determining whether CAVDP youth actually find jobs that will lead to those rewards.

The criticism regarding aggregation (e.g., real estate was grouped with insurance companies, taxicab companies with airlines), however, is much more relevant to our concerns. A recent study (Tolbert, et al, 1980) tries to take this into account by collecting data on 143 industrial categories. However, because of the nature of the available data, several compromises had to be made. The initial factor analysis was done on only 55 broad industrial categories, which collapsed over 200 census industrial categories and they placed all

professional and public administration categories in the core sector for heuristic reasons. They also made shifts in the placement from core to periphery, or the reverse, for twenty-one industries which detailed data showed had uncharacteristically high or low levels of either profit or income.

Another criticism that might be made regarding Tolbert's, et al., method is that the cut-off point on the factor score for differentiating core from periphery is quite arbitrary. Oster (1979) provides an interesting solution to this. First, through factor analysis, he identifies a dual economy factor which had significant loads on all variables used reflecting industrial size and concentration, and unionization. Then, by hypothesizing two normally distributed subgroups within the distribution of all industries, Oster was able to identify 55 peripheral and 28 core industries. Oster apparently used detailed industrial categories. However, again because of inadequacies of available data, he does not include any retail, wholesale, service or financial industries in his analysis. Data on too many industrial categories are missing to be immediately useful for our purposes, although the technique used by Oster shows promise, if additional data were available.

As suggested above, it appears preferable that an evaluation study use some existing industrial classification system. At this point in time, however, no possible system will be perfectly accurate. Classification of many borderline

industries into the core or the periphery sector will be largely dependent on some necessarily arbitrary decisions about cutting points and choice of indicators. If because of time and expense one must use an existing system, it appears that despite its shortcomings, the best one located to date is the one developed in Tolbert, et al. (1980). It covers all major industry categories, and it uses detailed industrial categories. In addition, the indicators used are more directly related to theory than are some of those used in other studies.*

Generally, a person employed in a core industry should be considered to be in a primary labor market. There are some possible exceptions, however. Already mentioned is the case of individuals employed as temporaries or as part-time help. These employees would not receive many of the benefits given regular full-time employees. However, it must be mentioned that some companies screen these temporary employees

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* Tolbert, et al. (1980) used indicators designed to measure the following: the capacity for oligopoly in an industry; oligopolistic behavior in the industrial product market; and oligopolistic behavior in the industrial labor market. The variables finally used were: (1) four-firm concentration ratio; median annual income; mean profit of business units; proportion supervisory or nonproduction personnel; proportion unionized workers; mean number of voluntary or involuntary terminations per 100 workers; median years employed with same firm for males; mean weekly wage for production and nonsupervisory personnel; and mean number of workers per business unit. In Oster's analysis (1979), variables in the dual economy factor include: depreciable assets; median years of schooling, males; government purchases, total industry receipts; and government purchases plus exports, total industry receipts.

and, if they are found to be acceptable, hire them as regular workers.

Another important possible exception involves firms that have many, but not all of the characteristics of the core firm. For example, large size is usually associated with core industries: if a firm employes very few people, but otherwise would be in a core industry, how should we classify its labor market -- primary or secondary? Heuristically, we can say that the firm size will affect promotional opportunity, since smaller firms will tend to have fewer levels of supervision. This, however, is not necessarily true of small offices of large firms, since transfers to a different office may be possible. Thus, resolution of issues like these may be made on the basis of the impact of certain characteristics upon other features commonly associated with the primary labor market.

Occupation-Specific Labor Market Patterns

Although the inclusion of an industrial classification system was necessary for our study, it had to be supplemented. The system was developed primarily through an examination of manufacturing firms. For such industries it provides a most plausible and satisfactory operationalization of the idea of a primary labor market. Problems do arise, however, for other types of firms, particularly in the service industries. The problem is that a different type of labor market operates alongside, or perhaps superimposed over, the internal labor

market of firms. More specifically, many of the professional, crafts and technical occupations follow career patterns quite differently from those suggested by internal labor market theory.

Some adjustment must be made for the fact that some groups which we intuitively feel should be included in the "primary" category would not be if we based it solely on criteria discussed in the dual labor market literature. Take, for example, dentists. The dental industry is not oligopolistic, firms are not large, there are few opportunities for within-firm advancement, median salaries are not particularly high, there is little unionization. In short, the internal labor market is poorly developed. Yet, we would not want to group the dentist into the secondary category.

To be sure, the professional and craft occupation career models are often alluded to in the literature, but they are not really taken into account when operationalizing the concepts. For example, it might be recalled that Tolbert, et al., assign all health services firms into the core category. This is done more out of intuitive feel than on the basis of supportive data. They admit that some of the industrial indicators are not relevant to professional services, but present no alternative indicators, or any theoretical justification for their professional classifications. This can lead to some misclassification. Thus, by Tolbert's, et al., decision, not only are the dentist and physician placed in the core

(or primary) sector, but so too are the receptionists and typists in their offices. Yet, such personnel lack the advantages of a developed internal labor market which are enjoyed by their counterparts in a Union Carbide or AT&T office.

The problem is that there are some occupations that operate within a very different type of labor market than is stressed in the dual labor market literature. While Doeringer and Piore's internal labor market is firm-specific, the labor markets of these other groups are more occupation-specific. There are numerous aspects to this differentiation. But taking one's cue from Doeringer and Piore, one can stress differences in training. In the internal labor market, most of the job-specific training process is defined and financed by the firm. Internal labor markets are developed by employers in order to maximize their return for this investment -- i.e., they offer inducements to employees to remain with and to identify with the firm. In some occupational fields, however, most of the training is defined and given by representatives of the <u>occupation</u>. A screening process is maintained by representatives of the occupation which limits the number of practitioners (thus protecting present practitioners from competition from an external labor market). The two major forms of screening are occupation-specific education (in the form of either apprenticeships or degrees from accredited

education programs), and state licensing laws. This entire screening process includes occupation-specific training time and money for prospective candidates, and are usually incurred prior to employment. This suggests that candidates possess a certain degree of personal commitment to the occupation (as opposed to a given firm), and that such jobs are valued for future benefits associated with them. Since the occupational representatives define the content of relevant knowledge and skills, which typically transcend the needs of any specific firm, practitioners need not be tied to a single firm for career advancement.

The internal labor market of these groups is thus quite different from that discussed earlier. Career advancement centers more on improving occupational skills, with little stress on length of employment within a firm. The other internal labor market stresses advancement within a firm, often taking the form of moving into new, better jobs. For the professional type labor market, the firm is simply not the appropriate unit of analysis, but instead, we must look at the occupation itself.

A first task would be to identify those occupations which have developed this other type of internal labor market. Those individuals in such an occupation who are employed in a core industry, of course, would be considered to have a job in the primary labor market. In addition, those in the occupation who are employed in a periphery industrial sector would also

be considered as being a part of the primary labor market (e.g., a CPA hired by a retail firm, even though retail stores are considered periphery).

The actual operationalization of what constitutes a developed occupational labor market has yet to be worked out. However, at least three areas should be examined. First, we must examine state occupational licensing laws. An occupation would be considered part of a developed occupational labor market if such activity required a license or certificate, or if the job is accepted as the experience requirement for licensure. The second general area to consider is union or trade apprenticeship programs and a third area is professionally accredited occupation-specific programs requiring two or more years of training. At issue here is how important are these programs in efforts to gain employment. They may not be required by law but could be de facto necessary. In other cases such training might help one get a "better" job, but is not really needed (e.g., an A.A. degree in secretarial studies). Further study of specific occupational and career patterns are necessary before a final determination can be made but it is something before a final determination can be made but it is something that is "do-able." However, the inclusion of both firm-centered and occupational-centered labor market will help make labor market theory more useful for this type of evaluative study.

Occupational Aspirations

As already indicated, a substantial proportion of the CAVD youth will remain in school for several more years, and

most of them were not employed in full-time jobs at the time of our last data collection effort. Because of this, we are limited in our capacity to determine if in fact CAVDP increases the youth's chances of entering a primary labor market job.

Even for those youth who do decide to enter the labor market after two years of school, we must be cautious in interpreting and predicting on the basis of those jobs. In his analysis of the youth labor market, Paul Osterman (1980) makes some important observations. After interviewing about 140 lower class youth in Boston, Osterman found, contrary to what one might conclude from much of the primary labor market literature, that almost all the youth start out in secondary labor market jobs, and only after a period of adjustment, sometimes taking years, do many -- but not all -- of the youth settle into primary labor market jobs. He found that for most of the youth the sequence of jobs held does not follow any career pattern -- that initial jobs are random with respect to skills and later occupations. He does not find the youth actively pursuing a chosen career, but merely that they drift into an occupation (often through personal contacts) and then settle down. Osterman contrasts this with Richard Freeman's (1971) analysis of college trained youth, who tend to develop a single career orientation toward which they strive.

It is clear that for most of the youth we interviewed, by itself, their present job and their past job history would be poor predictors of future earnings or career occupation. However,

Osterman's analysis does suggest that some important insights can be obtained in our evaluation of the CAVDP project by including in our analysis the youths' occupational aspirations and career perspective. Career orientations are particularly characteristic of primary jobs, and we can evaluate the degree to which the program has affected both occupational aspirations and career oritntations over time. Further, since the CAVDP provided experimentals with part-time jobs, we also want to know how well the project linked the youths' present part-time job experiences to their specific occupational aspirations. By taking them together, occupational history and career aspirations, we are better able to evaluate the value of a project such as CAVDP in helping the youth work toward his or her goals. Whether or not the youth actually achieves those goals, of course, would require follow-up study several years in the future.

Conclusion

In cases in which one's sample remain in school and is working only part-time, or not at all, dual labor market analysis may be only peripherally useful, for it would be unwise to predict long-term placement. In such cases, we have found the relating of occupational aspirations with present behavior to be the most useful approach.

If the entire sample completes their involvement in the training or educational program, however, dual labor market analysis does provide a useful tool for predicting long-term benefits, for while we cannot state with certainty where the youth will be

occupationally ten years hence, we can suggest, based on a growing body of research, that, on the average, those presently employed in a core industry job are more likely ten years from now to have stable secure jobs with promotional opportunities, and to make more money, if one controls for education, than is one presently employed in a periphery sector job, or unemployed. The value of the dual labor market analysis, then, is to help us assess the long-term benefits of a program that we may be evaluating than would be otherwise possible.

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